Earth, Moon and Planets 1992 vol.58 N1, pages 79-95

The limits of possible values of inclination of Mercury's equator

Habibullin S.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The method of estimation of the limits, containing the equator inclination of a celestial body, had been developed. In this method it is necessary to know the orbital elements and the mass of a celestial body. Another condition is that the axial rotation of a body should be in the resonance with its orbital motion. It has been found that the equator inclinations should have the values between 1 ‡.7 and 2 ‡.6 for Mercury and between 1 ‡.0 and 1 ‡.8 for the Moon. It also has been found that largest harmonics in Mercury's physical libration are the harmonics sin(Φ - 3 g), cos(Φ - 3 g), sin g and sin 2Ω. © 1992 Kluwer Academic Publishers.

http://dx.doi.org/10.1007/BF00058075